

Dr. James Moser, Pro. Phys. Soc. 4, 1881, p. 348; C. E. Fritts, Pro. A. A. S., 33, 1884, p. 97; Scientific American Supplement, June 6, 1885, p. 7854; Bidwell, Phil. Mag. (5) 5, 1881, p. 302; 15, 1883, p. 31; 13, 1882, p. 347; 40, 1895, pp. 233-256; Pro. Phys. Soc. 7, 1885, p. 129; 13, 1894, pp. 552-579; W. von Uljanin, Thesis published in Moscow, entitled *Ueber die bei der Beleuchtung entstehende Electromotorische Kraft im Selen*; Morize, Am. Met. Jour. vol. 2, p. 2.

### OBSERVATIONS AT HONOLULU.

Through the kind cooperation of Mr. Curtis J. Lyons, Meteorologist to the Government Survey, the monthly report of meteorological conditions at Honolulu is now made nearly in accordance with the new form, No. 1040, and the arrangement of the columns, therefore, differs from those previously published.

#### Meteorological observations at Honolulu.

MARCH, 1899.

The station is at 21° 18' N., 157° 50' W.  
Pressure is corrected for temperature and reduced to sea level, and the gravity correction, -0.06, has been applied.  
The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 12, or Beaufort scale. Two directions of wind, or values of wind force, connected by a dash, indicate change from one to the other.  
The rainfall for twenty-four hours is now given as measured at 1 p. m. Greenwich time on the respective dates.  
The rain gauge, 8 inches in diameter, is 1 foot above ground. Thermometer, 9 feet above ground. Ground is 43 feet, and the barometer 50 feet above sea level.

Date.	Pressure at sea level.	Temperature.		During twenty-four hours preceding 1 p. m.. Greenwich time, or 2:30 a. m., Honolulu time, of the respective dates.										Total rainfall.	Average cloudiness.	Sea-level pressures.	
				Temperature.		Means.		Wind.									
		Dry bulb.	Wet bulb.	Maximum.	Minimum.	Dew-point.	Relative humidity.	Prevailing direction.	Force.	Maximum.	Minimum.						
1	30.05	71	77	73	70	62	64	nne.	4.6	0.02	7	30.09	30.09				
2	30.01	71	77	73	70	59.5	64	ne.	3	0.09	10	30.08	30.08				
3	30.01	64	68.5	69	69	63.3	71	nne.	2.0	0.00	4	30.03	30.03				
4	30.02	60	59	59	59	64.0	73	w-n.	2.0	0.00	2-7	30.05	30.05				
5	30.00	71	65	69	69	61.3	73	ne.	0.3	0.00	9	30.03	30.03				
6	30.06	69	65	67	68	62.3	72	nne.	4.6	0.05	8-10	30.08	30.08				
7	30.05	69	68	69	69	67	73	nne.	4.0	1.68	10	30.04	30.04				
8	30.00	65	68	75	65	61.3	71	ne.	3.0	0.08	6	30.00	30.00				
9	30.06	65	64	79	79	64	73	ne.	2	0.13	6	30.09	30.09				
10	30.09	65	64	80	65	64.0	81	se.	2	0.00	5	30.04	30.04				
11	30.06	67	66	81	64	66.5	84	se.	2	0.08	4	30.08	30.08				
12	30.06	67.5	81	66	66	66.5	81	s.	0.2	1.68	8-10	30.00	30.00				
13	30.06	70	69	68	68	68.3	88	s-w.	1	0.16	10-7	30.03	30.03				
14	30.04	72	68	78	78	69	68	se-ne.	0.3	0.06	10-4	30.09	30.09				
15	30.06	69	64.5	80	70	65.7	74	ne.	0.3	0.00	10-4	30.10	30.10				
16	30.07	62	61.5	78	69	64.0	73	ne.	3	0.00	6-3	30.11	30.11				
17	30.03	69	64.5	80	62	62.3	75	ne.	3	0.00	4-8	30.09	30.09				
18	30.00	66	64	79	69	63.5	73	e-se.	3.1	0.00	3-10	30.06	30.06				
19	30.02	68	67	80	64	65.5	79	sw-w.	2	0.04	6	30.01	30.01				
20	30.03	61	59	77	67	68.3	73	ne-s-w.	1	0.00	8-10	30.06	30.06				
21	30.07	58	57.5	79	58	59.7	70	wnw.	1.3	0.00	5	29.96	29.96				
22	30.04	60	56.5	80	58	57.3	74	wnw.	2.4	0.00	4-0	29.94	29.94				
23	30.04	64	57	75	57	55.7	68	n.	2	0.00	6	29.90	29.90				
24	30.06	61	59	77	61	54.3	62	n-se.	1	0.00	4-0	29.92	29.92				
25	30.00	66	65	77	59	61.7	76	s.	1.1	0.04	7-0	29.96	29.96				
26	30.02	68	68	81	64	64.3	73	s-sw.	1.5	0.00	5	30.02	30.02				
27	30.06	73	66	82	67	66.5	76	e-ne.	0.00	0.00	3	30.06	30.06				
28	30.06	73	66	82	67	66.5	76	ne.	0.00	0.00	3	30.12	30.12				
29	30.05	72	65	79	72	64.0	66	ene.	0.02	0.02	3	30.13	30.13				
30	30.05	72	65	80	71	61.7	65	ne.	0.01	0.01	4	30.11	30.11				
31	30.05	73	68.5	80	69	62.0	62	ne.	0.00	0.00	2	30.12	30.06				
Sums..									4.94								
Means.	29.973	67.0	61.4	78.5	65.4	62.9	74.1				5.8	30.033	29.940				
Departure..	-0.005			+0.5	+0.5	+2.0	+2.8			+0.78	+1.9	-.005	-.006				

Mean temperature for March, 1899 (6+2+9)+3=71.3°; normal is 70.7°. Mean pressure for March is 29.987; normal is 29.982.  
\*This pressure is as recorded at 1 p. m., Greenwich time. †These temperatures are observed at 6 a. m., local, or 4:30 p. m., Greenwich time. ‡These values are the means of (6+9+2+9)+4. §Beaufort scale.

### METEOROLOGY OF THE YUKON.

Mr. U. G. Myers, Observer, Weather Bureau, who has been

spending a year in Alaska on a furlough, sends a copy of a meteorological record made by him at Dawson City (N. 65° 5', W. 139° 30'; elevation about 1,100 feet above sea level), during November and December, 1898, and January, 1899. Mr. Myers made a daily reading of the barometer and maximum and minimum thermometers, and noted the character of the day. Dawson is about 75 miles southeast of the Weather Bureau station at Eagle (N. 64° 45', W. 141° 8').

The following is a summary of his observations:

Month.	Temperature.						Total snowfall.	Depth of snow on ground.		Number of days—			Prevailing direction of wind.	
	Maximum.	Date.	Minimum.	Date.	Mean maximum.	Mean minimum.		Mean (max. and min.).	On 15th.	At end of month.	Clear.	P. cloudy.		Cloudy.
1898.	°		°		°	°	°	<i>Ins.</i>	<i>Ins.</i>	<i>Ins.</i>				
November *....	23.3	13	-41.4	19	-10.9	-17.8	-14.4	.....	9.0	12.0	10	8	12	n.
December.....	22.0	6	-41.0	31	3.5	-7.9	-2.2	10.0	18.0	22.0	16	12	3	n.
1899.														
January .....	2.0	21	-45.0	25	-15.7	-27.2	-21.4	6.0	24.0	38.0	11	4	16	n.

\* For 29 days.

November, 1898: Yukon closed at 9 p. m. on the 3d. Snow-fall on the 10th, 24th, and 26th.

December, 1898: Light rain for a few minutes during afternoon of the 6th. Light snow fell on the 1st, 2d, 3d, 14th; heavy snow on the 15th, 22d, and 24th.

January, 1899: Light snow on 9th; heavy snow on 28th.

### SNOW ROLLERS.

By A. H. THIESSEN, Observer Weather Bureau.

As a slight contribution to the literature of natural snowballs the following will be of interest.

Mr. Walker, a voluntary observer at Dearborn Canyon, Mont., sent in the following remark with his January report:

On the 27th at 9 a. m. a high west wind began blowing that caused the moist snow to roll along the ground and form large snowballs, until the fields and pastures looked as if Mother Nature had been amusing herself on a large scale.

Mr. Walker has since been in the Helena office and a more detailed description has been secured. The scene of this phenomenon was a rolling field. Six inches of very light snow fell the day before. At the time of the phenomenon the observer judged that the temperature was about at the freezing point. The wind was blowing a gale, estimated at 40 miles per hour. The snow was lifted up in sheets before it began to roll, just as one would roll a sheet of paper. The balls were of all sizes, and were formed on the up-grade as well as on the down. They were even forced over a small knoll and were then assisted by a gravity into a hollow where many were collected. No very reliable data could be obtained as to structure. The small balls were spherical and the larger ones were cylindrical. There was also a hole through the center three to six inches in diameter. Later in the day a chinook reached the station dissipating the snow and leaving these monuments for awhile showing what rare and singular conditions may occur in nature.

### RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined list of titles has been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index